CLAIMS

We claim:

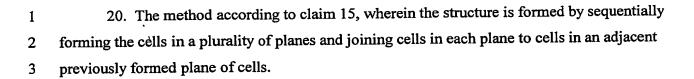
1	1. A structure, comprising:
2	a plurality of cells of a cured resinous material, each cell being joined to at least one
3	other cell
1	2. The structure according to claim 1, wherein the cells are solid.
1	3. The structure according to claim 1, wherein the cells are hollow.
בלענק מלענק	4. The structure according to claim 1, wherein the hollow cells are filled with fluid.
1	5. The structure according to claim 1, wherein the fluid is a gas.
1	6. The structure according to claim 1, wherein the fluid is a liquid.
1	7. The structure according to claim 1, wherein the resinous material comprises an
2	epoxy curable with ultraviolet radiation.
1	8. The structure according to claim 4, wherein an interior of the cells has a fluid
2	pressure substantially similar to an ambient pressure external to the cells.
1	9. The structure according to claim 1, wherein the cells all have a similar size.
1	10. The structure according to claim 1, wherein the cells are joined together to form a

wall of a tubular structure having continuous walls.

1 11. The structure according to claim 1, wherein the cells are arranged in a plurality of parallel planes.

- 1 12. The structure according to claim 11, wherein cells in plurality of adjacent planes 2 are arranged in different positions orthogonal to the planes.
- 1 13. The structure according to claim 11, wherein the cells in a plurality of adjacent planes are aligned in a direction perpendicular to the planes.
- 1 14. The structure according to claim 11, wherein the number of cells in each plane 2 differs.
- 1 15. A method of forming a structure, the method comprising:
- forming a plurality of individual cells each comprising a mass of uncured resin;
- 3 contacting some of the cells with others; and
- 4 curing the resin.
- 1 16. The method according to claim 15, further comprising:
- 2 injecting fluid into the masses of uncured resin to inflate the cells of resin.
- 1 17. The method according to claim 16, wherein the fluid is a liquid.
- 1 18. The method according to claim 16, wherein the fluid is a gas.
- 1 19. The method according to claim 17, further comprising:
- 2 solidifying the liquid after injecting it into the cells.

2



- 21. The method according to claim 20, wherein the number of cells formed in each plane differs.
 - 22. The method according to claim 20, wherein cells in a plurality of adjacent planes are arranged in different positions orthogonal to the planes.
- 1 23. The method according to claim 20, wherein cells in a plurality of adjacent planes 2 are aligned in a direction perpendicular to the planes.
- 24. The method according to claim 16, further comprising:
 evacuating the fluid from the interior of the cells after curing the resin.

25. The method according to claim 24, further comprising:

- 2 injecting another fluid into the cells after evacuating the fluid utilized in inflating the
- 3 cells.

1

- 1 26. The method according to claim 25, wherein the fluid is a gas.
- 1 27. The method according to claim 25, wherein the fluid is a liquid.
- 1 28. The method according to claim 27, further comprising:
- 2 solidifying the liquid after injecting into the inflated cell.

2

1 2

3

1

2

1

2



1	29. The method according to claim 24, wherein the fluid is evacuated until an interior
2	of the cells has a gas pressure substantially similar to an ambient pressure external to the cells

- 30. The method according to claim 25, wherein the other fluid is injected into the cells until an interior of the cells has a gas pressure substantially similar to an ambient pressure external to the cells.
 - 31. The method according to claim 15, wherein forming the cells of uncured resin comprises:

feeding the uncured resin through a plurality of resin flow apertures in a plate.

- 1 32. The method according to claim 15, wherein all of the cells are formed of a similar 2 size.
 - 33. The method according to claim 15, wherein curing the resin comprises exposing the resin to at least one of ultraviolet radiation, heat, visible light, an electron beam, and microwave radiation.
 - 34. An apparatus for creating a structure comprising a plurality of cells of cured resinous material, the apparatus comprising:
- a plurality of resin flow apertures arranged to permit cells formed at one aperture to contact cells formed at directly adjacent apertures; and
- a resin flow control member arranged in each resin flow aperture and operable to control a flow of resin from the resin flow apertures.

1

2

1

2

2	a liquid injection port arranged in each resin flow aperture for injecting liquid into a
3	cell of uncured resin flowing out of the resin flow aperture to inflate the cell; and
4	a liquid flow control member operable to control a flow of liquid through the port.
1	36. The apparatus according to claim 35, wherein the liquid comprises gas.
1	37. The apparatus according to claim 35, wherein the liquid comprises a fluid.
1	38. The apparatus according to claim 34, further comprising:
2	a forming plate that the resin flow apertures are formed through. $^{\wedge}$
1	39. The apparatus according to claim 34, further comprising:
2	at least one cell-retaining member for retaining the cells after curing of the resinous
3	material.
1	40. The apparatus according to claim 34, further comprising:
2	a source of energy for curing the uncured resin.

35. The apparatus according to claim 34, further comprising:

42. The apparatus according to claim 34, wherein the resin flow control member

41. The apparatus according to claim 40, wherein the energy source comprises at least

one of a source of ultraviolet radiation, a heat source, a source of visible light, an electron

beam source, and a source of microwave radiation.

comprises a shutter valve.

- 1 43. The apparatus according to claim 34, wherein a position of the resin flow 2 aperture is alterable.
- 1 44. The apparatus according to claim 34, wherein the apparatus form cells having a substantially uniform size.
- 1 45. A structure comprising:
- a plurality of groups of cells of cured resinous material, each group of cells
- 3 being joined to at least one other group of cells and each cell being joined to at least one other
- 4 cell.
- 1 46. The structure according to claim 45, wherein the cells in each group are co-
- 2 planar.
- 1 47. The structure according to claim 45, wherein the cells within each group have a
- 2 uniform size.
- 1 48. The structure according to claim 45, wherein the cells among the groups have a
- 2 uniform size.